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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/799,860

Applicant(s)

PRAKASH, VIPUL V.

Examiner

Jeffrey R. Swearingen

Art Unit

2445

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-9 and 12-20 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 12-14 is/are allowed.
- 7) ☒ Claim(s) 1-9, 15-20 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-884)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date ____

DETAILED ACTION

Interview Summary

1. Applicant conducted an interview with the Examiner on 1/4/2012 concerning potential allowable subject matter in claims 1 and 15. Applicant turned down this proposal in an electronic mail correspondence, dated 1/4/2012. The electronic mail correspondence was made of record in the interview summary mailed on 1/5/2012.
2. Applicant's representative is reminded that the Office is not able to correspond via electronic correspondence without authorization from Applicant. See MPEP 502.03, specifically section IV.

Allowable Subject Matter

3. Claims 12-14 are allowed.

Response to Arguments

4. Applicant's arguments with respect to claims 1-9 and 15-20 have been considered but are moot in view of the new ground(s) of rejection.
5. Applicant should also review the cited prior art, including the citations of the Geist and Daniell references which give additional ways to interpret generating a signature using a length of the electronic communication. As indicated in the Examiner interview of 12/3/12, the Examiner is willing to negotiate allowable subject matter. However, the breadth of claims 1 and 15 and the language in the "analyzing" clause precludes such determination at this time.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milliken et al. (US 2004/0073617) in view of Goodman et al. (US 7,711,779) in view of Mitty et al. (US 2001/0037453)

8. In regard to claim 1, Goodman disclosed a method comprising:

using one or more computer processors, extracting Uniform Resource Locators from electronic communication; and (column 7, lines 56-63, identifying a spam message based upon the presence of a URL)

analyzing the URLs extracted to determine whether the electronic communication is of a first predetermined category, (column 7, lines 56-63)

Goodman disclosed extracting URLs from electronic communications. Goodman disclosed determining whether a email is spam based upon the presence or absence of a URL. Goodman failed to disclose the step of generating signatures or hash values based upon the content of the email message.

However, Milliken disclosed generating signatures or hash values based upon the content of the email message. Milliken, [0050], where one or more portions of a received email are hashed to produce a hash value. Any portion of the main text, or attachments may be hashed. The hash acts as a signature in [0052].

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the hashing of an email to determine whether the email constituted spam, into the Goodman system which used the presence or absence of URLs to determine whether an email constituted spam, in order to build a more robust spam prevention system.

Milliken failed to disclose generating a signature based upon a length of the electronic communication. Milliken did disclose hashing can be performed on "one or more header fields" of the email. [0050]. However, Mitty disclosed the generation of a "unique waybill ID" [0067] which is a CRC of the encrypted message and a digest of the encrypted message. The digest includes the "message length".

It would have been obvious to one of ordinary skill in the art at the time of invention to include a message length in the digesting/signature creation/encryption of a message in Milliken, as taught in Mitty, in order to improve the sorting techniques of Milliken in regard to building a more robust spam prevention system.

9. In regard to claim 2, Goodman disclosed the method of claim 1, wherein extracting the URLs comprises extracting at least one of a hostname, a domain name, a subsection of a domain relative link, and an Internet Protocol (IP) address from the electronic communication. Goodman, col. 7, lines 58-63 and col. 13, lines 45-53. The elements of at least one of a hostname, a domain name, a subsection of a domain relative link, and an Internet Protocol (IP) address are inherently part of the URL as disclosed in Goodman

10. In regard to claim 3, Milliken disclosed the method of claim 1, further comprising performing a predetermined operation on the electronic communication if the electronic communication is determined to be of the first predetermined category. [0080], rejecting message if suspicion score is high enough

11. In regard to claim 4, Milliken disclosed the method of claim 1, wherein analyzing the URLs comprises:

selecting one or more of the one or more signatures generated; and [0054], storing of hash values

comparing the selected signatures against a plurality of predetermined signatures generated from a plurality of known electronic communications of the first predetermined category. [0082], checking hashed portions of a message with known email lists which have been hashed

Milliken failed to teach wherein each predetermined signature of the plurality of predetermined signatures has a signature based upon an electronic communication length and extracted URLs. However, Goodman disclosed extracting URLs from electronic communications. Goodman disclosed determining whether a email is spam based upon the presence or absence of a URL. Goodman failed to disclose the step of generating signatures or hash values based upon the content of the email message.

It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the hashing of an email to determine whether the email constituted spam, into the Goodman system which used the presence or absence of

URLs to determine whether an email constituted spam, in order to build a more robust spam prevention system.

Milliken failed to disclose generating a signature based upon a length of the electronic communication. Milliken did disclose hashing can be performed on "one or more header fields" of the email. [0050]. However, Mitty disclosed the generation of a "unique waybill ID" [0067] which is a CRC of the encrypted message and a digest of the encrypted message. The digest includes the "message length".

It would have been obvious to one of ordinary skill in the art at the time of invention to include a message length in the digesting/signature creation/encryption of a message in Milliken, as taught in Mitty, in order to improve the sorting techniques of Milliken in regard to building a more robust spam prevention system.

12. In regard to claim 5, Milliken disclosed the method of claim 1, wherein generating the one or more signatures further comprises:

computing a first hash based on the length of the electronic communication; computing a second hash ...; and generating a signature by concatenating the first hash to the second hash. Milliken disclosed hashing portions of an email, [0050]. A fixed length of a hash is established in [0055]. Concatenating hashes is taught in [0086].

13. Milliken failed to disclose an extracted URL was hashed.

14. However, Goodman disclosed using the presence of a URL within an email to determine whether an email was spam. Goodman, col. 7, lines 58-63 and col. 13, lines 45-53

15. It would have been obvious to one of ordinary skill in the art at the time of invention that because Goodman detected whether an email was spam based upon the presence of a URL, and because therefore a URL would have been part of an email in Goodman, and because Milliken disclosed any portion of an email may be hashed, that a URL that was part of an email in Milliken would have been hashed.

16. In regard to claim 6, Milliken disclosed the method of claim 4. Milliken, [0050], hashing one or more portions of a received email. Milliken failed to disclose an extracted URL was hashed.

17. However, Goodman disclosed using the presence of a URL within an email to determine whether an email was spam. Goodman, col. 7, lines 58-63 and col. 13, lines 45-53

18. It would have been obvious to one of ordinary skill in the art at the time of invention that because Goodman detected whether an email was spam based upon the presence of a URL, and because therefore a URL would have been part of an email in Goodman, and because Milliken disclosed any portion of an email may be hashed, that a URL that was part of an email in Milliken would have been hashed.

19. In regard to claim 7, Milliken disclosed the method of claim 4, wherein generating the one or more signatures further comprises generating the one or more signatures based on at least one of a protocol, a hostname, a domain name, a subsection of a domain relative link, and an Internet Protocol (IP) address from the electronic communication. Milliken, [0096], hashing specific headers from an email separately, such as the use of Yahoo Groups

In regard to claim 8, Milliken disclosed the method of claim 4, further comprising classifying the electronic communication to be of the first predetermined category if one of the selected signatures matches one of the plurality of predetermined signatures. [0082], checking hashed portions of a message with known email lists which have been hashed

20. In regard to claim 9, Milliken disclosed the method of claim 4, wherein the plurality of predetermined signatures is derived from a plurality of electronic documents reported via a collaborative submission mechanism. Milliken, [0061], preloading of hashes from "legitimate email list servers"

21. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milliken in view of Goodman in view of Mitty et al in view of Knowles et al. (US 5,905,863).

22. In regard to claim 15, Milliken disclosed a system comprising:

- a server, coupled to the plurality of databases, including: server 120, [0035]

- a memory device to store a plurality of instructions; and

- a processor, coupled to the memory device, to retrieve the plurality of instructions from the memory device and to perform operations in response to the plurality of instructions, the operations comprising:

- generating one or more signatures of electronic communication using a length of the electronic communication...; and Milliken, [0050],

- where one or more portions of a received email are hashed to produce a

hash value. Any portion of the main text, or attachments may be hashed.

The hash acts as a signature in [0052].

determining whether the electronic communication is of a first predetermined category using the one or more signatures generated.

Milliken, [0082], checking hashed portions of a message with known email lists which have been hashed to determine if a message is spam or suspicious.

Milliken failed to disclose hashing the URL extracted from a message.

However, Goodman disclosed using the presence of a URL within an email to determine whether an email was spam. Goodman, col. 7, lines 58-63 and col. 13, lines 45-53

It would have been obvious to one of ordinary skill in the art at the time of invention that because Goodman detected whether an email was spam based upon the presence of a URL, and because therefore a URL would have been part of an email in Goodman, and because Milliken disclosed any portion of an email may be hashed, that a URL that was part of an email in Milliken would have been hashed.

Milliken failed to disclose generating a signature based upon a length of the electronic communication. Milliken did disclose hashing can be performed on "one or more header fields" of the email. [0050]. However, Mitty disclosed the generation of a "unique waybill ID" [0067] which is a CRC of the encrypted message and a digest of the encrypted message. The digest includes the "message length".

It would have been obvious to one of ordinary skill in the art at the time of invention to include a message length in the digesting/signature creation/encryption of a message in Milliken, as taught in Mitty, in order to improve the sorting techniques of Milliken in regard to building a more robust spam prevention system.

Milliken and Goodman failed to disclose a plurality of databases to store a plurality of signatures of a plurality of known electronic communications of a first predetermined category. Milliken did disclose comparing known signatures of email messages. Milliken failed to disclose the signatures compared were stored in a plurality of databases.

However, Knowles did disclose use of multiple databases to compare message content to determine if a message was a reply to another message. Knowles, column 5, lines 2-4 disclosed the multiple databases of different content, and column 5, lines 53-64 disclosed the querying of multiple databases of email content.

It would have been obvious to one of ordinary skill in the art at the time of invention that Milliken's hash signatures would have been storable in a plurality of databases for purposes of data backups and storage of different types of data.

23. In regard to claim 16, Goodman disclosed the system of claim 15, wherein the URLs comprises at least one of a hostname, a domain name, a subsection of a domain relative link, and an Internet Protocol (IP) address. Goodman, col. 7, lines 58-63 and col. 13, lines 45-53. The elements of at least one of a hostname, a domain name, a subsection of a domain relative link, and an Internet Protocol (IP) address are inherently part of the URL as disclosed in Goodman

24. In regard to claim 17, Milliken disclosed the system of claim 15, wherein the operations further comprise selecting the one or more of the plurality of signatures based on a plurality of predetermined criteria. [0068], hash the main text of the body and [0070], hash the attachments of the email. Also see [0050]. The use of hash blocks in [0050] is selecting a signature generated based on a plurality of predetermined criteria.

25. In regard to claim 18, Milliken disclosed the system of claim 15, wherein the operations further comprise performing a predetermined operation on the electronic communication if the electronic communication is determined to be of the first predetermined category. Milliken, [0082], checking hashed portions of a message with known email lists which have been hashed to determine if a message is spam or suspicious.

26. In regard to claim 19, Knowles disclosed the system of claim 15, further comprising a database, coupled to the server, to store a plurality of reports from which the plurality of predetermined signatures are generated. Knowles, col. 5, lines 55-58.

27. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Milliken in view of Goodman in view of Knowles as applied to claim 15 above, and further in view of Official Notice.

28. In regard to claim 20, Milliken in view of Goodman in view of Knowles disclosed the system of claim 15. The combined references failed to disclose wherein the plurality of databases are in a remote location from the server. However, Official Notice is taken

that databases were commonly stored in remote locations from a server at the time of invention to allow for remote storage of data and for emergency management procedures in case of catastrophic events. It would have been obvious to one of ordinary skill in the art at the time of invention to remotely store databases in the Milliken/Goodman/Knowles combination.

Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

30. Olkin et al. US 2003/0074552

31. Geist et al. US 2005/0038754

32. Geist specifically teaches the commonly known technique of creating a hash by using a hash function H which transforms an input string of length m to an output that always has a fixed size string h , where $h = H(m)$. Here, m is equivalent to the "length of the electronic communication".

33. Daniell et al. US 2005/0091321

34. Daniell states in claim 1 creating a "32-bit string indicative of the length of the email message", and appending this to a generated MD5 hash.

35. Syiek et al. US 2009/0132670

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571)272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner
Art Unit 2445

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